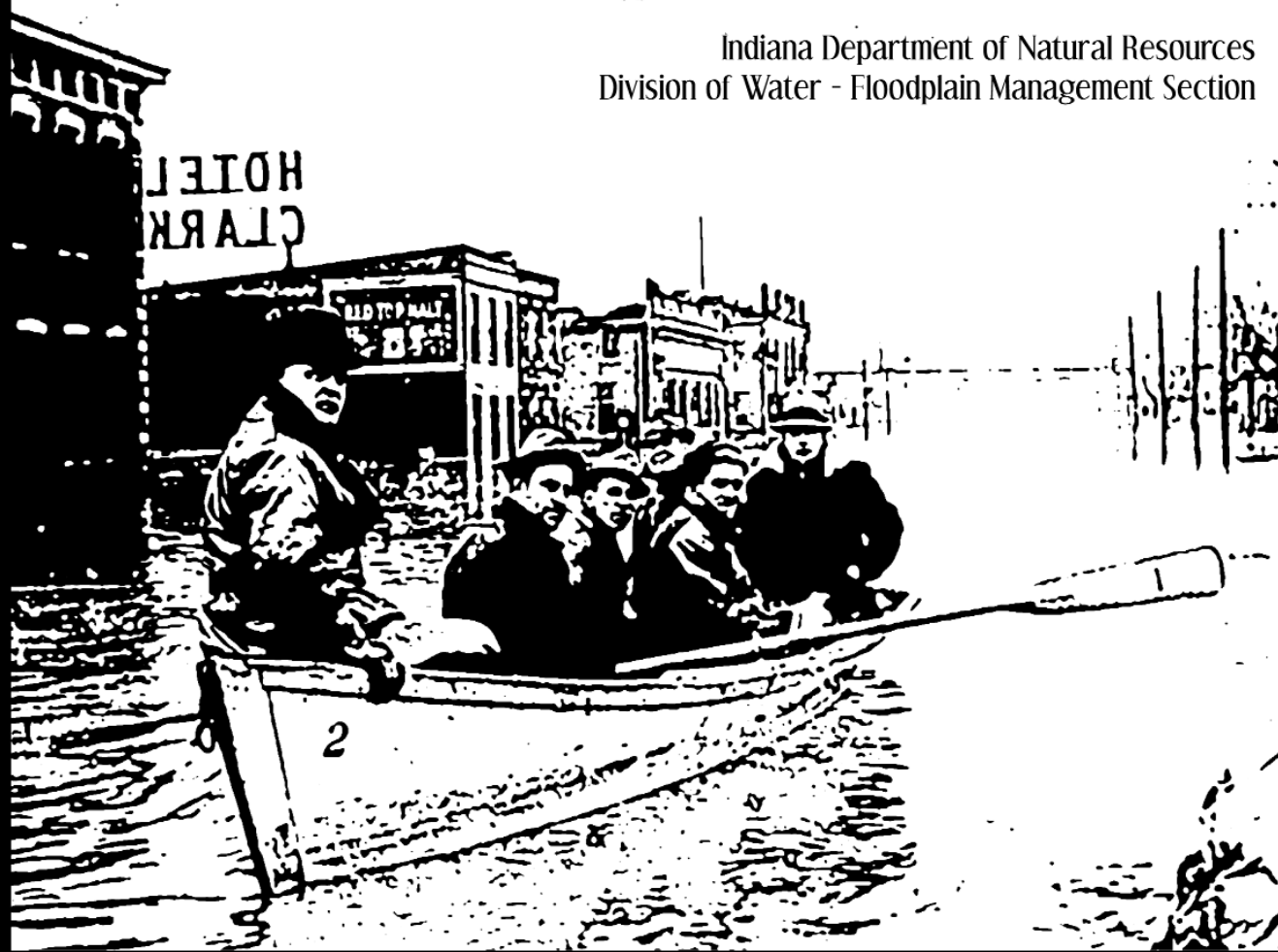


FLOODING & POST-DISASTER RESPONSIBILITIES

A Local Administrator's Guide

Indiana Department of Natural Resources
Division of Water - Floodplain Management Section



Foreword

The goal of this handbook is to provide guidance to local permit officials in the tasks associated with a flood event - this includes pre-flood preparation and post-flood responsibilities. Whether or not your community has experienced a flood, it will happen, and you will need to be able to respond to the event to ensure that all post-flood reconstruction in your community's floodplain is compliant.

When established procedures are not in place, the difficulty of performing post-flood tasks is multiplied. A flood event in your community is truly a time of crisis. Hopefully, this handbook will provide you with the tools and guidance necessary to be able to properly respond to a flood event and ensure that your community is meeting all the requirements of your local floodplain regulations. By enforcing your local floodplain regulations, you can help to reduce your community's future flood damages.

We invite you to visit our new homepage at **<http://www.IN.gov/dnr/water>**, which will provide you with more information on the programs and regulations administered by the Indiana Department of Natural Resources Division of Water. *Published 9/2004.*

Table of Contents

Flooding and Post-Disaster Responsibilities

Foreword	2
Preparing Before the Flood	5
Become Familiar With Your Flood Risks	6
Permit Development Correctly	6
Public Awareness	6
Develop a Standard Operating Procedure	7
Flood Response	8
Document Extent of Flooding	8
Document Damage to Structures	8
Notify Public of Need for Permit for Repair/Reconstruction	8
Repair and Reconstruction Permit Process	9
Determining Floodplain Status	9
Determining Extent of Damage	9
Structure's Pre-Damaged Value	9
Cost of Repairs	9
Substantial Damage	10
Following the Local Ordinance	10
Building Protection Requirements	10
Document Retention	10
Additional Permits	11
Conclusion	11

Addendum - Post Disaster Response Packet

Recommended Post-Disaster Procedures	A5
Inventory of Disaster-Damaged Structures (FORM 1)	A7-10
Damage Notice Template (FORM 2)	A11-14
Sample News Release (FORM 3)	A15-18
Sample Damage Inspection Worksheet:	
Form 4.A. Single/Multi-Family Site Built Residences	A19-24
Form 4.B. Manufactured Homes	A25-30
Form 4.C. Non-Residential Structures	A31-35
Request for Floodplain Analysis and Regulatory Assessment (FORM 5)	A37-40
FEMA Elevation Certificate (FORM 6)	A41-54

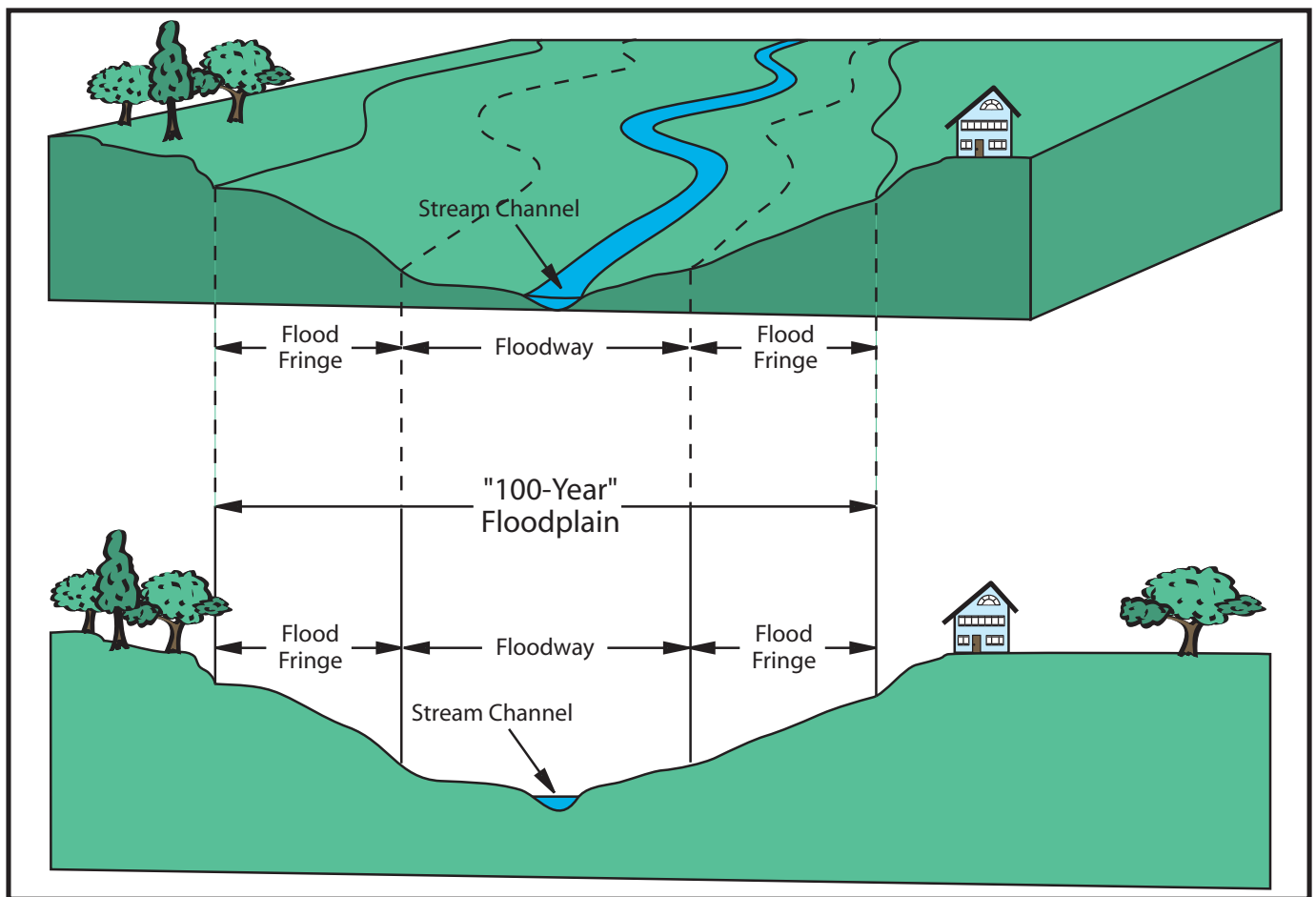
This informational packet is geared toward the local permit official and may be used as a guide to estimate and determine the degree of damage sustained by structures in your community's floodplain due to your recent disaster.

Although use of the worksheet format(s) is optional, the information contained therein may be required by local code enforcement personnel, building officials, contractors, property owners, and the National Flood Insurance Program.

Preparing before the Flood

Does it snow every year in Indiana? Of course it does. Some communities typically have more snow than others, but generally all Indiana communities understand the hazards of a snow event. Even though some communities may do a better job than others, every community has a plan in the event of a snow. They make sure sand and salt are on hand, snowplows are readied, and State Police or National Weather Service reports are monitored. They know who is responsible for which roads, and they have a plan for the order in which roads will be cleared. But what if a community failed to prepare for snow and a blizzard hit? Naturally, it would be hectic, and potentially deadly. It is easy to conclude that the better prepared communities are, the more smoothly the process goes.

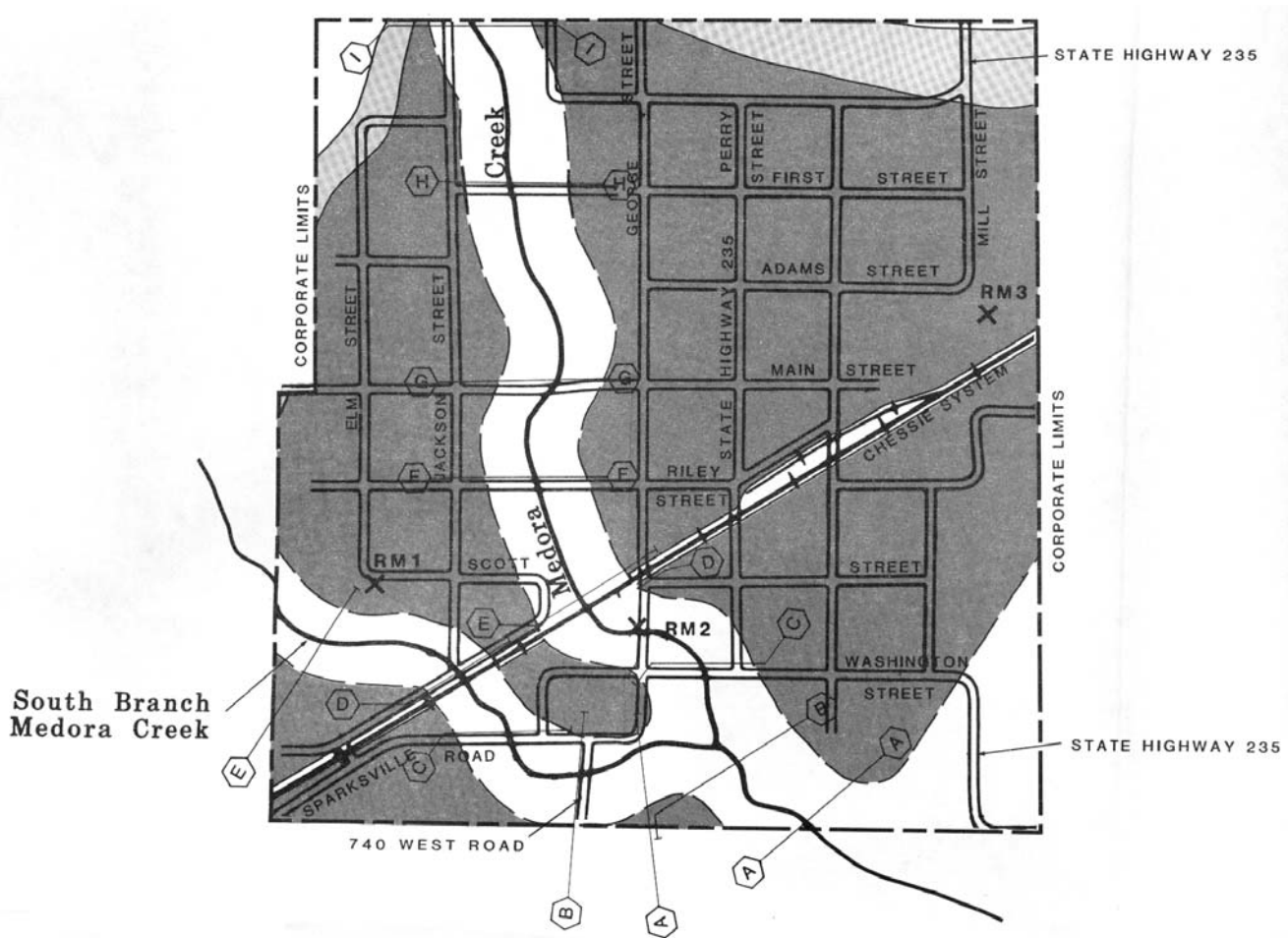
The same is true for flooding. The better prepared, the more smoothly the process goes. When a flood will happen is less predictable than forecasting when snow will fall. However, the areas where flooding will strike are predictable. Nearly all Indiana communities have some level of floodplain mapping that identifies the flood hazards. The areas identified are those that have been determined to be at risk in the event of a 1% chance flood (commonly known as the 100-year flood).



Floodplain Schematic

Become Familiar With Your Flood Risks

Local officials should utilize their floodplain maps and become familiar with the flood risks in their area. One way is to tour the areas that have been identified as a flood hazard. As the tour is being done, a list of the structures at risk should be compiled. Should the community have Geographical Information Systems (GIS) capabilities, the structures known to be at risk could be easily located and identified.



Example of Flood Boundary Map; Medora, Indiana is shown here

Permit Development Correctly

Most Indiana communities with flood hazards participate in the National Flood Insurance Program (NFIP). A participation requirement of the NFIP is that communities adopt and enforce floodplain regulations that meet all the Federal and State minimum requirements. By ensuring that new construction is compliant with the local ordinance, the need for future mitigation is eliminated or significantly reduced.

Public Awareness

Only a small percentage of people in any given community really understand the risks associated with flooding. With the current disclosure laws, some buyers of property are informed that there is a flood risk; however, they may not understand the full implications of that risk.

To increase awareness about the risk of flooding in the community, newspaper articles or other forms of media can be used. For example, a community may find that the utility companies servicing the area may be willing to distribute information as an insert with their billings. In addition, educational programs can be implemented within the community. Some resources for these programs are the Indiana Department of

Natural Resources (IDNR), regional planning agency or special district, Federal Emergency Management Agency (FEMA), and United States Army Corps of Engineers (USACE).

Develop a Standard Operating Procedure (SOP)

What will need to be done? When does it need to be done? Who will do it? What do we need? Where do we get it? There are many questions to consider when preparing for a flood. One of the biggest setbacks to a community during/after a flood is confusion. When officials don't know where to start, valuable time, energy, and resources can be wasted, and opportunities can be lost.

One of the most important steps a community can take is to pool its resources, both tangible and intangible. Individuals and groups within the community who are directly involved with flooding issues should compile a list of actions to be taken in time of flooding. Examples of individuals and/or groups that should be involved are: local permit official, floodplain administrator, building commissioner, building inspector, plan commission director, sheriff's department, emergency manager, police department, fire department, veterinarian, county surveyor, Department of Natural Resources, local Soil and Water Conservation District, County Cooperative Extension Service, community officials, Board of Health, Solid Waste Management Districts, and local utility companies. A team approach to floodplain management and flood response will enable the community to collaborate ideas through a diversified group effort.

The individuals involved in the development of the SOP need to consider many factors including, but not limited to:

- What are the flood sources and what areas do they impact?
- Are the flood sources subject to flash flooding, or is there time to prepare?
- What roadways/access roads are at risk?
- Are there individuals in the community trained to lead or participate in a flood fight?
- Are there areas that could be protected by sandbagging?
- Where do we get sandbags and sand?
- Who will prepare and place sandbags?
- What areas will need to be evacuated and when?
- How will areas be evacuated?
- Are there critical facilities at risk?
- Where can a shelter be established?
- Where can victims receive help?
- Who will coordinate with volunteer organizations?
- Are there farm animals that will need to be transported?
- Is there a facility to handle family pets that have to be evacuated or treated?
- Are there hazardous waste/materials that will require special actions?
- Who will document the flood damage - residential/commercial/public?
- Will all structures be allowed to repair/reconstruct based on State and local regulations?
- Will building permit fees be waived for flood victims?
- Are flood studies that provide base flood elevations and floodway delineations available for all the streams in the community?
- How will information be dispersed to victims?

Some communities may consider the establishment of a flood warning and response system. Ideally, this system would include flood forecasting, warning, and emergency preparedness. Communities can coordinate with the State Emergency Management Agency (SEMA), National Weather Service (NWS), FEMA, and USACE for assistance in developing a flood warning and response system.

Flood Response

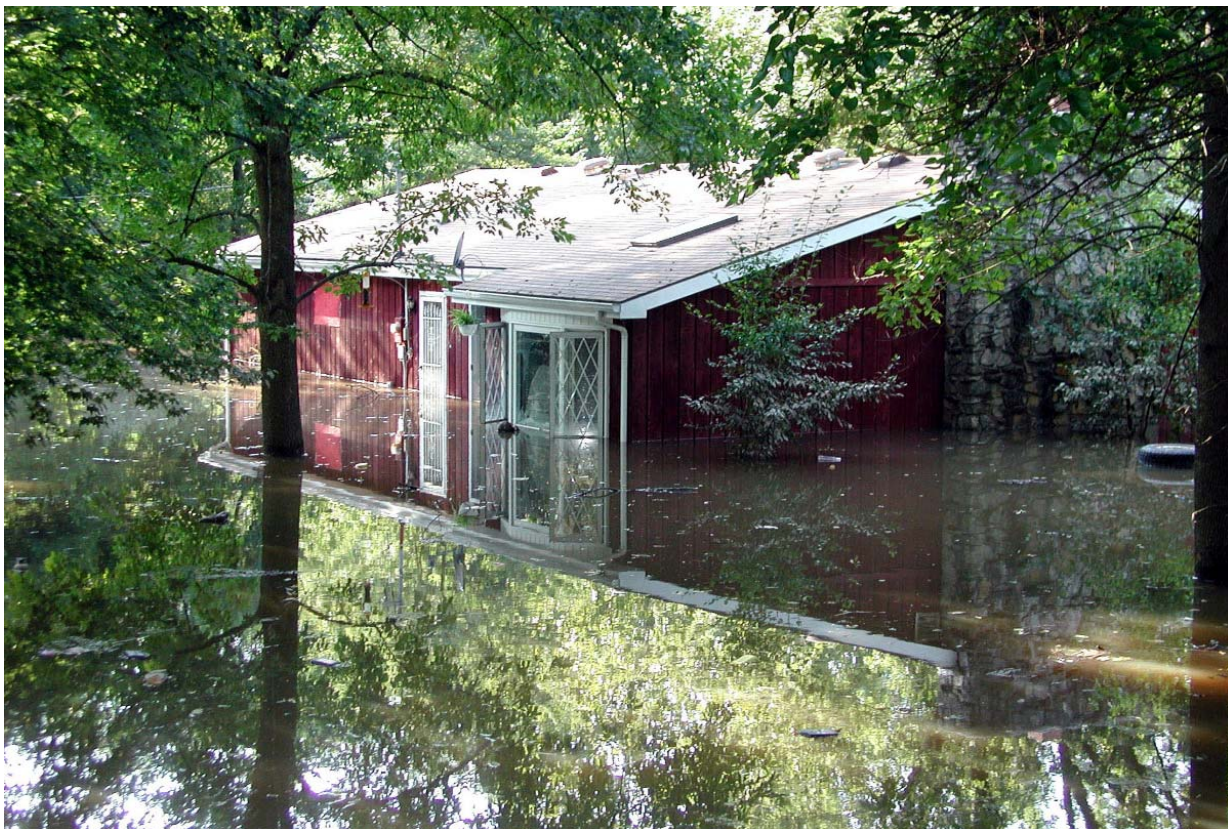
While various groups will carry out flood-response activities, the following information pertains to the role of the local floodplain administrator.

Document Extent of Flooding

Depending on the size of the community and the area impacted, the task of documenting the extent of flooding can be daunting. However, this historical data is vital. Photographs and video of the affected area can be taken to assist in documenting the extent of damage to structures. Boundaries of inundation and high water marks can be set to establish the area and height the water encompassed.

Document Damage to Structures

The community should complete a drive-by survey of the damaged structures in the affected area. The survey should include site location (address), water level (detected by mudlines, debris, etc.), construction type, and a preliminary damage assessment (i.e. damage being low, medium, high). This task can be completed with the help of the local emergency manager, personnel involved with the permitting process, community officials, and/or volunteers. By pooling community resources, tasks that seem lengthy can be more easily accomplished. A sample of a drive-by survey can be found in the post-disaster response packet.



Flooded home in Delaware County

Notify Public of Need for Permit for Repair/Reconstruction

A natural reaction for flood victims is to try to restore life "back to normal" as soon as possible. This thought process usually does not immediately include the reality of getting the proper permits. For some victims, the reality may be that they will have to elevate their structure, or that they may not be legally allowed to repair or reconstruct. It's important to emphasize the need to see the community's floodplain administrator/building official.

Public notification can be given through the mass media (newspapers, radio, and television). Notices can also be posted at sites such as disaster recovery centers or emergency shelters. In addition, individual damaged structures can be "red tagged," along with correspondence by mail to the property owner. A first round of notification letters should be followed by a second round of certified letters, if needed. A sample news release and door tag notice are included in the post-disaster response packet.

Repair and Reconstruction Permit Process

Determining Floodplain Status

The first step in the permitting process is to determine the structure's floodplain status. Is it located in the floodway or the flood fringe? This process can be accomplished by utilizing the floodplain mapping for the community or by having the IDNR complete a Floodplain Analysis/Regulatory Assessment for the structure in question.

The types of maps used may be Flood Insurance Rate Maps (FIRM), Flood Boundary Floodway Maps (FBFM), or IDNR Flood Studies. Keep in mind that these maps can only be used if the floodway limits and elevations for the 1% chance flood (also known as 100-year flood, regulatory flood, or base flood) are shown for the waterbody involved. If the community does not have floodplain mapping that provides adequate information, a floodplain analysis and regulatory assessment (FARA) from IDNR will be needed.

Once the floodplain status is determined, state and local regulations can then be applied accordingly.

Determining Extent of Damage

This portion of the permit process only applies to those pre-FIRM structures located in the Special Flood Hazard Area (SFHA). These are structures built before the flood maps were developed for the community participating in the NFIP. Therefore, these structures are most likely to have their lowest floor elevation below the Base Flood Elevation (BFE) or the Flood Protection Grade (FPG). The post-FIRM structures, or those built after the community adopted its flood maps, should be built in compliance with the community's floodplain ordinance and, therefore, are less likely to suffer damages from flooding.

When determining the extent of damage, the permit official needs to have two pieces of information: the structure's pre-damaged fair market value and the cost to restore the structure back to its pre-damaged condition. If additional improvements or additions are planned, the cost of the additional improvements must also be considered. In this task, the main objective for the permit official is to be consistent in the method used. Consistency leaves little room for argument about equality. The permit official needs to maintain the documentation in the permit file. This will become especially important when the community is reviewed by the State or by FEMA for NFIP compliance.

Structure's Pre-Damaged Value

The structure's pre-damaged value is the fair market value of the structure only, excluding the land. Some ways of determining the value are: a professional appraisal, a bill of sale (manufactured homes), an insurance settlement, or tax assessment records.

Cost of Repairs

The two main items on a cost of repairs list should include the materials used and the cost of labor. When calculating the cost of materials and labor, the fair market value must be used - even if the materials and/or labor are donated. Some exclusions in the cost of repair include debris removal, clean-up, building plans, and permit fees.

Substantial Damage

A structure is considered substantially damaged when the cost of repairing the structure back to its pre-damaged condition equals or exceeds 50% of the fair market value of the pre-damaged structure (unless the community has adopted a more restrictive standard).

Following the Local Ordinance

Once damage determinations are made, the permit official may proceed to the next level. The permit official is responsible for seeing that all the applicable requirements of the community's floodplain regulations are met.

Building Protection Requirements

The building protection requirements and options outlined in the community's floodplain regulations should be referred to for guidance during the permitting process. If a structure has been substantially damaged, or has been previously altered, the structure will have to be brought into compliance with the building protection requirements of the local floodplain ordinance. This includes elevating the structure to the FPG, protecting utilities, and ensuring that all other local floodplain regulations are met. A copy of the elevation certificate should be maintained in the permit file.



Elevated home

Document Retention

Copies of all flood-related documents should be kept in the community's permit file. Floodplain Analysis and Regulatory Assessments (FARA), permits, substantial damage determinations, elevation certification or other "as-built" certifications, inventory of flood-damaged structures, and any other supporting documentation should be maintained in the permit file.

Additional Permits

Additional permits, other than the local permit, may be required. For example, the Indiana Flood Control Act (IC 14-28-1) requires a State permit for construction in the floodway. Other permits may be needed from the Department of Health, Indiana Department of Environmental Management, and/or USACE.

Conclusion

Comprehensive pre-flood preparedness and post-flood response are essential for a successful floodplain management program. By being proactive and prepared, the local floodplain administrator ensures that reconstruction activities in your community's floodplain are done to reduce or eliminate future flood damage. This handbook focuses mainly on post-flood response. However, the following post-disaster procedures should be implemented after any disaster that impacts your community's special flood hazard area; this includes damage from wind, fire, earthquake, tornado, etc. Should you have questions on post-flood or post-disaster responsibilities, please contact the Floodplain Management Section of the DNR Division of Water at:

**Floodplain Management Section
Division of Water
Department of Natural Resources
402 West Washington Street., Room W264
Indianapolis, IN 46204-2641
(317) 232-4160 or Toll Free: (877) 928-3755
www.in.gov/dnr/water**

Addendum

POST-DISASTER RESPONSE PACKET

Indiana Department of Natural Resources
Division of Water - Floodplain Management Section



Recommended Post-Disaster Procedure for Structures Located in the Floodplain

Contact your local Emergency Management Agency, building inspectors, surveyors, and others who may be helpful in completing damage assessments.

Your local Emergency Management Agency will know the areas that have damaged structures.

Mark boundaries of inundation, high water marks, and areas of flood damage. If possible, document the damage with video or photographs.

Complete a drive-by survey and a preliminary damage assessment.

- Record the site location, water level and type of construction for each structure **(Use FORM 1)**.
- List the structures as low (0- 40%), medium (40-60%), or high (>60%) damage.

Notify all property owners, either by written notice or by news release, that permits and substantial damage determinations are required **(FORMS 2 & 3)**.

Prioritize the damaged structures:

- The medium damage structures should be inspected first to determine if the structures have been substantially damaged.
- The high damage structures should be inspected to verify that the structures are substantially damaged.
- The low damage structures should be inspected to verify that the structures are non-substantially damaged.

To determine if a structure is substantially damaged obtain:

- The pre-damaged fair market value of the structure, excluding:
 - The value of the land.
- The cost of repair, including:
 - Materials used.
 - Cost of labor.
 - Fair market value of any donated materials and labor.(The cost of repair excludes debris removal, clean-up, and building plans.)

The pre-damaged fair market value of the structure may be determined by:

- Appraisals.
- Bill of sale.
- Insurance settlement.
- Tax assessment records.
- Residential Substantial Damage Estimator software.

The cost of repair may be determined by:

- Estimate by a licensed contractor.
- Local floodplain manager making a qualified estimate using professional judgment and knowledge of local construction costs **(FORMS 4A, B, and C)**.
- Residential Substantial Damage Estimator software.

For whatever method the community chooses to determine the pre-damaged fair market value and the cost of repair, the same method should be used consistently throughout the community.

If the cost of repair is 50% or more than the fair market value of the structure, the structure is substantially damaged (In some instances the local ordinance may be more restrictive. Please refer to your community's ordinance.)

Permitting repairs/ reconstruction:

- **If any structure is located in the SFHA where no floodway is delineated, STOP.** Requests for repair should be forwarded to the Indiana Department of Natural Resources (IDNR) for review before proceeding any further.
- **If any structure is located in the floodway, STOP.** Requests for repair should be forwarded to the Indiana Department of Natural Resources (IDNR) for review before proceeding any further.
- If a structure is not located in the floodway and is non-substantially damaged, then a local permit for repairs may be issued without meeting building protection standards.
- If a structure is not located in the floodway and is substantially damaged, the structure may be permitted, provided that the structure is reconstructed to be compliant with the local flood hazard ordinance. An "as-built" elevation certification must be completed and filed with the permit.

Keep copies of all disaster related documentation, such as:

- Floodplain Analysis/ Regulatory Assessments.
- Permits.
- Substantial damage determinations.
- Elevation certificates or other "as-built" certifications.
- Inventory of disaster damaged structures and any other supporting documents.

Contact FEMA or the IDNR, if you need more publications on post-disaster reconstruction techniques.

If you have questions regarding your responsibilities as floodplain manager, contact:

**Floodplain Management Section
Division of Water
Department of Natural Resources
402 West Washington Street., Room W264
Indianapolis, IN 46204-2641
(317) 232-4160 or Toll Free: (877) 928-3755
www.in.gov/dnr/water**

FORM 1

Inventory of Disaster Damaged Structures Located in the Floodplain

Inventory of Disaster Damaged Structures Located in the Floodplain For: _____ FORM 1

DATE OF INSPECTION	PHOTO ID	OWNER NAME	ADDRESS	FLOOD DEPTH AT SITE	DAMAGE ESTIMATE Low/Med/High	STRUCTURE TYPE	COMMENTS

FORM 2

Sample Damage Notice

FORM 2

DAMAGE NOTICE

This is to notify you that your structure has been identified as a possible damaged structure located in the floodplain due to the recent disaster. Under the authority of **(Local Floodplain Ordinance #)** _____ any reconstruction or repair activity on this structure will require a permit from the **(Local Building Permit Department)** _____. Failure to obtain the necessary permit will result in fines in accordance with provisions of the community's floodplain ordinance.

Please contact the **(Local Building Permit Department)** _____ to obtain the necessary permits prior to the start of any reconstruction activity. Thank you.

(Local Permit Office) _____

Phone (____) ____-_____

FORM 3

Sample News Release

FORM 3

SAMPLE NEWS RELEASE

_____ **(Community Name)** residents reminded to get building permits for repairs to damaged structures.

Residents of _____ **(Community Name)** are reminded that with the recent disaster, many structures in the community may have experienced structural damage. Repairs and/or reconstruction activities to structures that are located in the floodplain and were damaged due to the disaster will require a local building permit from the _____ **(Name of local permit office)** as required by **(Community Name)** local floodplain ordinance. Failure to obtain the necessary permits can result in fines up to _____ **(dollar amount from local floodplain ordinance)**. In addition, depending on a property's location, a permit may be required from the Indiana Department of Natural Resources prior to the start of any reconstruction activity.

For more information on the permitting process, contact _____ **(local permit official)** at _____.

FORM 4. A.

SAMPLE DAMAGE INSPECTION WORKSHEET
Single/Multi-Family Site Built Residences

DAMAGE INSPECTION WORKSHEET
Single/Multi-Family Site Built Residences

1. Subdivision: _____ Parcel #: _____ Lot #: _____
2. Elevation of lowest floor: _____ Datum: _____
3. NFIP Community Name: _____
4. Latitude: _____ Longitude: _____
5. Owner's First Name: _____ Last Name: _____
6. Building Address: _____ City: _____
State: _____ Zip: _____ Phone #: _____
7. County: _____
8. Mailing Address: _____ City: _____
State: _____ Zip: _____ Phone #: _____
9. Date of Construction: _____ Date Damage Occurred: _____
10. Cause of Damage: (A) Fire (B) Flood (C) Fire & Wind (D) Seismic (E) Wind
11. Duration of Flooding: (A) _____ hours or (B) _____ days
12. Description of Residential Site-Built Structure:
 - (A) Quality of Construction:
(1) Low ____ (2) Fair ____ (3) Average ____ (4) Good ____ (5) Very Good ____ (6) Excellent ____
 - (B) 1-Story ____ 1 ½ -Story ____ 2-Story ____ More than 2 Stories ____ 2-Story Bi-level ____ Split level ____
 - (C) Foundation (*check one*):
Slab-on-grade ____ Basement ____ Crawl Space ____ Piers ____ Footings ____
 - (D) Overall Dimensions of building foot print: Size (L) _____ ft X (W) _____ ft
 - (E) Walls (*check one*):
(1) Wood Frame ____ (2) Masonry ____ (3) Concrete Walls ____
(4) Exterior Finish (type) _____
(5) Interior Finish (type) _____

(F) Roof:

(1) Metal/Corrugated or ribbed: ____ (2) Composition Shingles: ____ (3) Other: ____

(G) Heating/Cooling:

(1) Forced Air ____ (2) Warm and Cooled ____ (3) Wall Furnace ____ (4) Heat Pump ____

(H) Flooring

Floor Covering (type)

(I) Appliances (built-in only). List: _____

(J) Fireplace: Yes ____ No ____ Quantity ____

(K) Porch/Breezeways: Yes ____ No ____

(L) Garage: Attached ____ Detached ____ No. of cars: ____

Carport: Attached ____ Detached ____ No. of cars: ____

(M) Basement (*check one*): Finished ____ Unfinished ____

(N) Deck: Yes ____ No ____

13. Name of Inspector: _____

14. Date of Inspection: _____ Time of Inspection: _____

15. Phone Number of inspector (*including area code*): _____

16. Description of Special Flood Hazard Area (SFHA):

NFIP Community ID #: _____ FIRM Panel #: _____

FIRM Suffix: _____ Date of FIRM Panel: _____ FIRM Zone: _____

BFE (NGVD) _____

Regulatory Floodway: Yes ____ No ____ Potential ____

17. Flood Depth Above Lowest Floor:

(A) Exterior Walls ____ ft (B) Interior Walls ____ ft

18. PERCENT OF DAMAGE FIELD ESTIMATE (for single/multi-family site built homes)

_____ % Foundations
_____ % Superstructure (Framing)
_____ % Roofing
_____ % Insulation and Weather Stripping
_____ % Exterior Finish
_____ % Interior Finish (Plaster/Drywall)
_____ % Doors, Windows, Shutters
_____ % Lumber Finished
_____ % Hardware
_____ % Cabinets/Countertops
_____ % Floor Covering
_____ % Plumbing
_____ % Electrical
_____ % Built-in Appliances
_____ % Heating/Cooling (HVAC)
_____ % Painting

19. CONDITION OF STRUCTURE: (Check one)

(A) Inundation Damage Only ____ (B) Minor Structural Damage ____ (C) Major Structural Damage ____
(D) Partially Collapsed ____ (E) Structure Moved Off Foundation ____ (F) Totally Destroyed/Collapsed ____

20. DESCRIPTION OF DAMAGE: (Answer yes or no)

(A) Plumbing: (1) Exposed ____ (2) In Need of Repair ____
(B) HVAC/Electrical: (1) Submerged ____ (2) Damaged ____ (3) Repair ____ (4) Replace ____

Use numbers from the right to described the condition of items C through F:

(C) Foundation _____	1. No Visible Damage	5. Dislodged/Destroyed
(D) Exterior Walls _____	2. Settlement/Cracked	6. Submerged
(E) Interior Walls _____	3. Partially Missing	7. Include All the Above
(F) Roof _____	4. Sagging	8. Other (explain) _____

FORM 4. B.

SAMPLE DAMAGE INSPECTION WORKSHEET
Manufactured Homes

DAMAGE INSPECTION WORKSHEET
Manufactured Homes

1. Subdivision: _____ Parcel #: _____ Lot #: _____
2. Elevation of lowest floor: _____ Datum: _____
3. NFIP Community Name: _____
4. Latitude: _____ Longitude: _____
5. Owner's First Name: _____ Last Name: _____
6. Building Address: _____ City: _____
State: _____ Zip: _____ Phone #: _____
7. County: _____
8. Mailing Address: _____ City: _____
State: _____ Zip: _____ Phone #: _____
9. Date of Construction: _____ Date Damage Occurred: _____
10. Cause of Damage: (A) Fire (B) Flood (C) Fire & Wind (D) Seismic (E) Wind
11. Duration of Flooding: (A) _____ hours or (B) _____ days
12. Description of Manufactured Home:
 - (A) Quality of Construction:
(1) Low ____ (2) Fair ____ (3) Average ____ (4) Good ____ (5) Very Good ____ (6) Excellent ____
 - (B) Skirting (*check one*):
(1) Metal/Vinyl ____ (2) Horizontal lap ____ (3) Simulated stone/brick ____ (4) Lattice ____
 - (C) Foundation (*check one*):
(1) Posts/piers/piles ____ (2) Continuous Concrete ____ (3) Treated Wood ____
(4) Conventional dry-stack block with metal tie down installation ____
 - (D) Type: (1) Single wide ____ (2) Double wide ____
 - (E) Overall Dimensions of building foot print: Size (L) _____ ft X (W) _____ ft
 - (F) Roof: (1) Metal/Corrugated or ribbed: ____ (2) Composition Shingles: ____

(G) Heating/Cooling:

(1) Forced Air ____ (2) Warm and Cooled ____ (3) Wall Furnace ____ (4) Heat Pump ____

(H) Flooring

Floor Covering (type) _____

(I) Appliances (built-in only). List: _____

(J) Fireplace: Yes ____ No ____ Quantity ____

(K) Porch/Breezeways: Yes ____ No ____

(L) Garage: Attached ____ Detached ____ No. of cars: ____

Carport: Attached ____ Detached ____ No. of cars: ____

(M) Basement (*check one*): Finished ____ Unfinished ____

(N) Deck: Yes ____ No ____

13. Name of Inspector: _____

14. Date of Inspection: _____ Time of Inspection: _____

15. Phone Number of inspector (*including area code*): _____

16. Description of Special Flood Hazard Area (SFHA):

NFIP Community ID #: _____ FIRM Panel #: _____

FIRM Suffix: _____ Date of FIRM Panel: _____ FIRM Zone: _____

BFE (NGVD) _____

Regulatory Floodway: Yes ____ No ____ Potential ____

17. Flood Depth Above Lowest Floor:

(A) Exterior Walls ____ ft (B) Interior Walls ____ ft

18. PERCENT OF DAMAGE FIELD ESTIMATE (*for manufactured homes*)

_____ % Skirting/Forms/Piers
_____ % Superstructure (Framing)
_____ % Roofing
_____ % Insulation and Weather Stripping
_____ % Exterior Finish
_____ % Interior Finish (Plaster/Drywall)
_____ % Doors, Windows, Shutters
_____ % Lumber Finished
_____ % Hardware
_____ % Cabinets/Countertops
_____ % Floor Covering
_____ % Plumbing
_____ % Electrical
_____ % Built-in Appliances
_____ % Heating/Cooling (HVAC)
_____ % Painting

19. CONDITION OF STRUCTURE: (*Check one*)

(A) Inundation Damage Only ____ (B) Minor Structural Damage ____ (C) Major Structural Damage ____
(D) Partially Collapsed ____ (E) Structure Moved Off Foundation ____ (F) Totally Destroyed/Collapsed ____

20. DESCRIPTION OF DAMAGE: (*Answer yes or no*)

(A) Plumbing: (1) Exposed ____ (2) In Need of Repair ____
(B) HVAC/Electrical: (1) Submerged ____ (2) Damaged ____ (3) Repair ____ (4) Replace ____

Use numbers from the right to described the condition of items C through F:

(C) Foundation _____	1. No Visible Damage	5. Dislodged/Destroyed
(D) Exterior Walls _____	2. Settlement/Cracked	6. Submerged
(E) Interior Walls _____	3. Partially Missing	7. Include All the Above
(F) Roof _____	4. Sagging	8. Other (explain) _____

FORM 4.C.

SAMPLE DAMAGE INSPECTION WORKSHEET
Non-Residential Structures

DAMAGE INSPECTION WORKSHEET
Non-Residential Structures

1. Parcel #: _____ Lot #: _____
2. Elevation of lowest floor: _____ Datum: _____
3. NFIP Community Name: _____
4. Latitude: _____ Longitude: _____
5. Owner's First Name: _____ Last Name: _____
6. Building Address: _____ City: _____
State: _____ Zip: _____ Phone #: _____
7. County: _____
8. Mailing Address: _____ City: _____
State: _____ Zip: _____ Phone #: _____
9. Date of Construction: _____ Date Damage Occurred: _____
10. Cause of Damage: (A) Fire (B) Flood (C) Fire & Wind (D) Seismic (E) Wind
11. Duration of Flooding: (A) _____ hours or (B) _____ days
12. Description of Site-Built Structure:
 - (A) Quality of Construction:
(1) Low ____ (2) Fair ____ (3) Average ____ (4) Good ____ (5) Very Good ____ (6) Excellent ____
 - (B) 1-Story ____ 1 ½ -Story ____ 2-Story ____ More than 2 Stories ____ 2-Story Bi-level ____ Split level ____
 - (C) Foundation (*check one*):
Slab-on-grade ____ Basement ____ Crawl Space ____ Piers ____ Footings ____
 - (D) Overall Dimensions of building foot print: Size (L) _____ ft X (W) _____ ft
 - (E) Walls (*check one*):
(1) Wood Frame ____ (2) Masonry ____ (3) Concrete Walls ____
(4) Exterior Finish (type) _____
(5) Interior Finish (type) _____

(F) Roof:

(1) Metal/Corrugated or ribbed: ____ (2) Composition Shingles: ____ (3) Other: ____

(G) Heating/Cooling:

(1) Forced Air ____ (2) Warm and Cooled ____ (3) Wall Furnace ____ (4) Heat Pump ____

(H) Flooring

Floor Covering (type)

(I) Appliances or Equipment (built-in only). List: _____

(J) Fireplace: Yes ____ No ____ Quantity ____

(K) Porch/Breezeways: Yes ____ No ____

(L) Garage: Attached ____ Detached ____ No. of cars: ____

Carport: Attached ____ Detached ____ No. of cars: ____

(M) Basement (*check one*): Finished ____ Unfinished ____

(N) Deck: Yes ____ No ____

13. Current use of building/type of business: _____

14. Name of Inspector: _____

15. Date of Inspection: _____ Time of Inspection: _____

16. Phone Number of inspector (*including area code*): _____

17. Description of Special Flood Hazard Area (SFHA):

NFIP Community ID #: _____ FIRM Panel #: _____

FIRM Suffix: _____ Date of FIRM Panel: _____ FIRM Zone: _____

BFE (NGVD) _____

Regulatory Floodway: Yes ____ No ____ Potential ____

18. Flood Depth Above Lowest Floor:

(A) Exterior Walls ____ ft (B) Interior Walls ____ ft

19. PERCENT OF DAMAGE FIELD ESTIMATE (for non-residential structures)

_____ % Foundations
_____ % Superstructure (Framing)
_____ % Roofing
_____ % Insulation and Weather Stripping
_____ % Exterior Finish
_____ % Interior Finish (Plaster/Drywall)
_____ % Doors, Windows, Shutters
_____ % Lumber Finished
_____ % Hardware
_____ % Cabinets/Countertops
_____ % Floor Covering
_____ % Plumbing
_____ % Electrical
_____ % Built-in Appliances/Equipment
_____ % Heating/Cooling (HVAC)
_____ % Painting

20. CONDITION OF STRUCTURE: (Check one)

(A) Inundation Damage Only ____ (B) Minor Structural Damage ____ (C) Major Structural Damage ____
(D) Partially Collapsed ____ (E) Structure Moved Off Foundation ____ (F) Totally Destroyed/Collapsed ____

21. DESCRIPTION OF DAMAGE: (Answer yes or no)

(A) Plumbing: (1) Exposed ____ (2) In Need of Repair ____
(B) HVAC/Electrical: (1) Submerged ____ (2) Damaged ____ (3) Repair ____ (4) Replace ____

Use numbers from the right to described the condition of items C through F:

(C) Foundation _____	1. No Visible Damage	5. Dislodged/Destroyed
(D) Exterior Walls _____	2. Settlement/Cracked	6. Submerged
(E) Interior Walls _____	3. Partially Missing	7. Include All the Above
(F) Roof _____	4. Sagging	8. Other (explain) _____

FORM 5

Indiana Department of Natural Resources - Division of Water

**Request for Floodplain Analysis and
Regulatory Assessment**



Request for Floodplain Analysis and Regulatory Assessment

(No Fee Is Required For This Assessment)

This is Not an Application for a Permit

Individual citizens should use this form for floodplain information requests such as:

- Flood Insurance determinations required by a mortgage lender
- Permit requirements for construction of a proposed structure or obstruction in a floodway (examples: fence, building, fill, excavation, pond, bridge, culvert, bank protection)
- Requirements for construction of a house or placement of a manufactured home

1. Type of request (Check All That Apply):

- ☐ Flood Insurance Determination
☐ 100-Year Flood Elevation Determination (Base Flood Elevation Determination)
☐ Information for a LOMA (Letter of Map Amendment)/LOMR (Letter of Map Revision)
☐ Floodway Determination
☐ Residential Structure ☐ Existing ☐ Replacement ☐ Proposed
☐ Non-Residential Structure ☐ Existing ☐ Proposed, describe _____
☐ Addition to a Building ☐ Residential ☐ Non-Residential
☐ Bridge or Culvert ☐ New ☐ Replacement ☐ Rehabilitation
☐ Other, describe _____

Floodplain assessments require accurate site location information that you must provide with your request. Failure to submit complete information may result in a lengthy delay.

2. **Site Location:** Section _____, Township _____ N / S, Range _____ E / W; Grant No. _____

Site Address _____, City _____

County _____, Nearest Stream / Water Body _____

3. Site Map / Description:

The following location or map information must be submitted in order to process your request.

Additional information may be requested.

- For all flood insurance determinations, use map type 3a (where applicable) and 3b. See examples on page 2.
- For sites in urban areas use map type 3a, 3b, or 3d. See examples on page 2.
- For sites in rural areas use map type 3b, 3c, or 3d. See examples on page 2.

4. **Contact Person:** Name _____

Address _____, City _____, State _____, Zip _____

Telephone (____) _____, Fax (____) _____, Email _____

Signature _____, Date _____

Send completed form and supporting information to:

Indiana Department of Natural Resources
 Division of Water
 Attention: Technical Services Section
 402 West Washington St., Room W264
 Indianapolis, IN 46204-2641



Processing may require 4 to 6 weeks.

Contact a Division of Water Technical Services Representative if you need help completing this form.

Phone: (317) 232-4160 Toll Free: (877) 928-3755 Fax: (317) 233-4579
 Email: water_inquiry@dnr.state.in.us

Agency Use Only

FARA No. _____
 CSC Initial _____

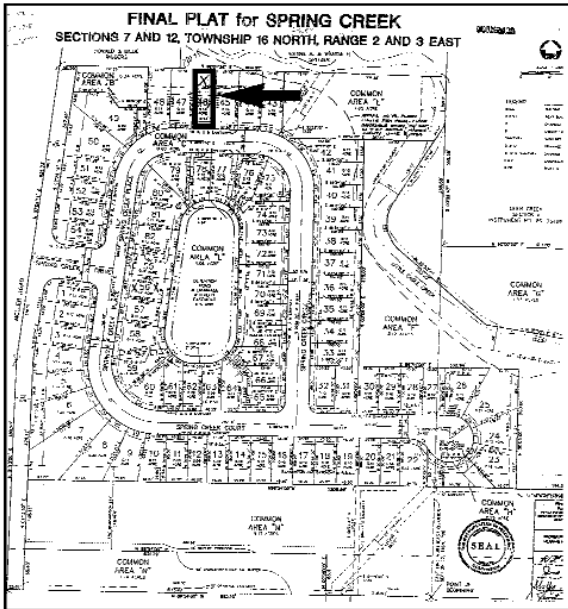
Date Stamp

Request for Floodplain Analysis and Regulatory Assessment Site Map/Description Instructions and General Guidelines

Before the Division of Water can evaluate your request, an accurate site location map must be submitted. Examples of acceptable maps are shown below. All maps must include a scale and a north arrow.

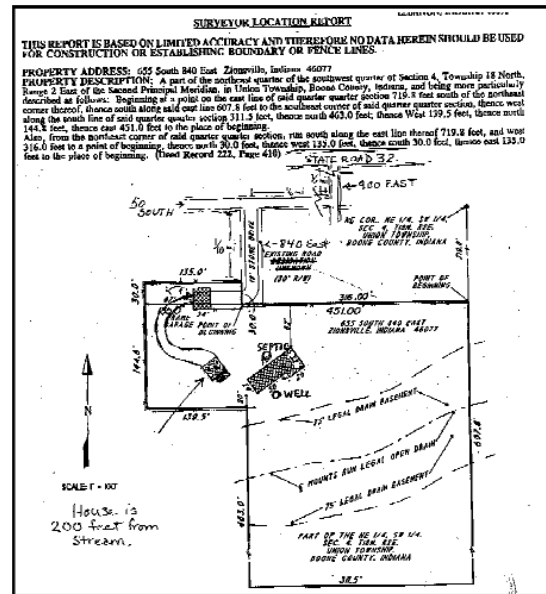
3a) Subdivision Plat with Lot # marked

This information may be obtained from the County Recorder's Office



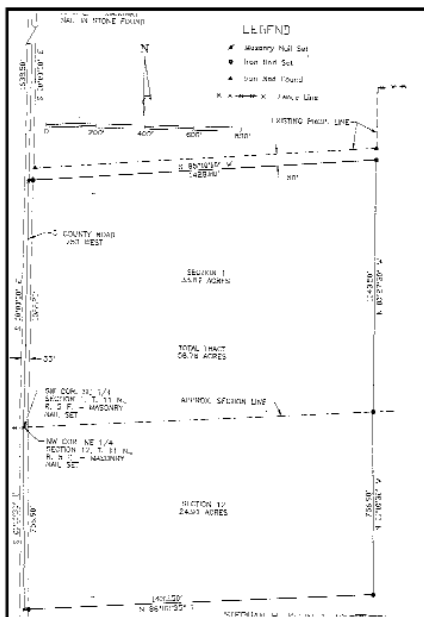
3b) Surveyor Location Report (mortgage survey) and Legal Description

This information may be filed with documents received at the mortgage closing



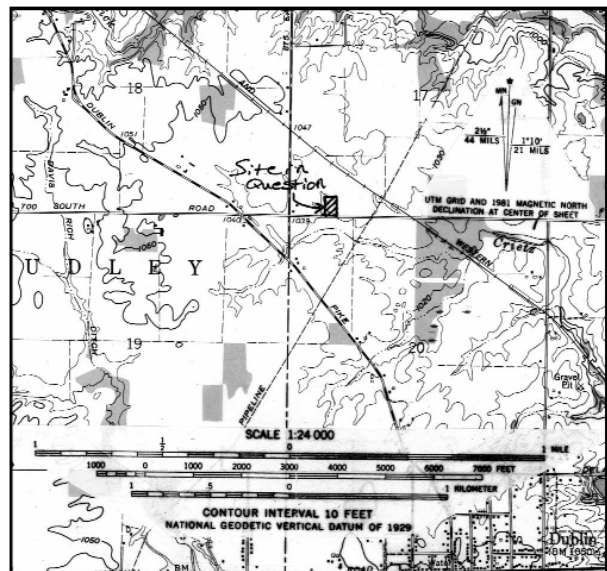
3c) A copy of the Property Survey

This information may be obtained from the County Recorder's Office



3d) A copy of the USGS topographical survey map with site location marked

This information may be obtained from DNR Map Sales
Office Phone: (317) 232-4180



FORM 6

Federal Emergency Management Agency

Elevation Certificate & Instructions



FEMA

FEDERAL EMERGENCY MANAGEMENT AGENCY

NATIONAL FLOOD INSURANCE PROGRAM

ELEVATION CERTIFICATE

AND

INSTRUCTIONS

NATIONAL FLOOD INSURANCE PROGRAM ELEVATION CERTIFICATE

PAPERWORK BURDEN DISCLOSURE NOTICE

FEMA Form 81-31

The public reporting burden for this form is estimated to be 3.0 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless a valid OMB control number appears in the upper right corner of this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, SW, Washington, DC 20472, Paperwork Reduction Project (3067-0077). NOTE: Please do not send your completed form to the above address.

PURPOSE OF THE ELEVATION CERTIFICATE

The Elevation Certificate is an important administrative tool of the National Flood Insurance Program (NFIP). It is to be used to provide elevation information necessary to ensure compliance with community floodplain management ordinances, to determine the proper insurance premium rate, and to support a request for a Letter of Map Amendment or Revision (LOMA or LOMR-F).

The Elevation Certificate is required in order to properly rate post-FIRM buildings, which are buildings constructed after publication of the Flood Insurance Rate Map (FIRM), for flood insurance Zones A1-A30, AE, AH, A (with BFE), VE, V1-V30, V (with BFE), AR, AR/A, AR/AE, AR/A1-A30, AR/AH, and AR/AO. The Elevation Certificate is not required for pre-FIRM buildings unless the building is being rated under the optional post-FIRM flood insurance rules.

As part of the agreement for making flood insurance available in a community, the NFIP requires the community to adopt a floodplain management ordinance that specifies minimum requirements for reducing flood losses. One such requirement is for the community to obtain the elevation of the lowest floor (including basement) of all new and substantially improved buildings and maintain a record of such information. The Elevation Certificate provides a way for a community to comply with this requirement.

Use of this certificate does not provide a waiver of the flood insurance purchase requirement. Only a LOMA or LOMR-F from the Federal Emergency Management Agency (FEMA) can amend the FIRM and remove the Federal mandate for a lending institution to require the purchase of flood insurance. However, the lending institution has the option of requiring flood insurance even if a LOMA/LOMR-F has been issued by FEMA. The Elevation Certificate may be used to support a LOMA or LOMR-F request. Lowest floor and lowest adjacent grade elevations certified by a surveyor or engineer will be required if the certificate is used to support a LOMA or LOMR-F request.

This certificate is used only to certify building elevations. A separate certificate is required for floodproofing. Under the NFIP, non-residential buildings can be floodproofed up to or above the Base Flood Elevation (BFE). A floodproofed building is a building that has been designed and constructed to be watertight (substantially impermeable to floodwaters) below the BFE. Floodproofing of residential buildings is not permitted under the NFIP unless FEMA has granted the community an exception for residential floodproofed basements. The community must adopt standards for design and construction of floodproofed basements before FEMA will grant a basement exception. For both floodproofed non-residential buildings and residential floodproofed basements in communities that have been granted an exception by FEMA, a floodproofing certificate is required.

O.M.B. No. 3067-0077
Expires December 31, 2005

Important: Read the instructions on pages 1 - 7.

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in B9.

☐ FIS Profile ☐ FIRM ☐ Community Determined ☐ Other (Describe): _____

B11. Indicate the elevation datum used for the BFE in B9: ☐ NGVD 1929 ☐ NAVD 1988 ☐ Other (Describe): _____

B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? ☐ Yes ☐ No
Designation Date: _____

SECTION C - BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: ☐ Construction Drawings* ☐ Building Under Construction* ☐ Finished Construction

*A new Elevation Certificate will be required when construction of the building is complete.

C2. Building Diagram Number _____ (Select the building diagram most similar to the building for which this certificate is being completed - see pages 6 and 7. If no diagram accurately represents the building, provide a sketch or photograph.)

[illegible]

Datum _____ Conversion/Comments _____
Elevation reference mark used _____ Does the elevation reference mark used appear on the FIRM? ☐ Yes ☐ No

- ☐ a) Top of bottom floor (including basement or enclosure) _____ ft. (m)
- ☐ b) Top of next higher floor _____ ft. (m)
- ☐ c) Bottom of lowest horizontal structural member (V zones only) _____ ft. (m)
- ☐ d) Attached garage (top of slab) _____ ft. (m)
- ☐ e) Lowest elevation of machinery and/or equipment servicing the building (Describe in a Comments area.) _____ ft. (m)
- ☐ f) Lowest adjacent (finished) grade (LAG) _____ ft. (m)
- ☐ g) Highest adjacent (finished) grade (HAG) _____ ft. (m)
- ☐ h) No. of permanent openings (flood vents) within 1 ft. above adjacent grade _____
- ☐ i) Total area of all permanent openings (flood vents) in C3.h _____ sq. in. (sq. cm)

License Number, Embossed Seal,
Signature and Date

SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information.

I certify that the information in Sections A, B, and C on this certificate represents my best efforts to interpret the data available.

I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

FEMA Form 81-31, January 2003

See reverse side for continuation.

Replaces all previous editions

IMPORTANT: In these spaces, copy the corresponding information from Section A.			For Insurance Company Use:
BUILDING STREET ADDRESS (Including Apt., Unit, Suite, and/or Bldg. No.) OR P.O. ROUTE AND BOX NO.			Policy Number
CITY	STATE	ZIP CODE	Company NAIC Number

SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION (CONTINUED)

Copy both sides of this Elevation Certificate for (1) community official, (2) insurance agent/company, and (3) building owner.

COMMENTS

☐ Check here if attachments

SECTION E - BUILDING ELEVATION INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO AND ZONE A (WITHOUT BFE)

For Zone AO and Zone A (without BFE), complete Items E1. through E5. If the Elevation Certificate is intended for use as supporting information for a LOMA or LOMR-F, Section C must be completed.

E1. Building Diagram Number _____ (Select the building diagram most similar to the building for which this certificate is being completed – see pages 6 and 7. If no diagram accurately represents the building, provide a sketch or photograph.)

E2. The top of the bottom floor (including basement or enclosure) of the building is _____ ft. (m) _____ in. (cm) _____ above or _____ below (check one) the highest adjacent grade. (Use natural grade, if available.)

E3. For Building Diagrams 6-8 with openings (see page 7), the next higher floor or elevated floor (elevation b) of the building is _____ ft. (m) _____ in. (cm) above the highest adjacent grade. Complete Items C3.h and C3.i on front of form.

E4. The top of the platform of machinery and/or equipment servicing the building is _____ ft. (m) _____ in. (cm) _____ above or _____ below (check one) the highest adjacent grade. (Use natural grade, if available.)

E5. For Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance? ☐ Yes ☐ No ☐ Unknown. The local official must certify this information in Section G.

SECTION F - PROPERTY OWNER (OR OWNER'S REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, C (Items C3.h and C3.i only), and E for Zone A (without a FEMA-issued or community-issued BFE) or Zone AO must sign here. *The statements in Sections A, B, C, and E are correct to the best of my knowledge.*

PROPERTY OWNER'S OR OWNER'S AUTHORIZED REPRESENTATIVE'S NAME

ADDRESS

CITY

STATE

ZIP CODE

SIGNATURE

DATE

TELEPHONE

COMMENTS

☐ Check here if attachments

SECTION G - COMMUNITY INFORMATION (OPTIONAL)

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Sections A, B, C (or E), and G of this Elevation Certificate. Complete the applicable item(s) and sign below.

G1. ☐ The information in Section C was taken from other documentation that has been signed and embossed by a licensed surveyor, engineer, or architect who is authorized by state or local law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)

G2. ☐ A community official completed Section E for a building located in Zone A (without a FEMA-issued or community-issued BFE) or Zone AO.

G3. ☐ The following information (Items G4-G9) is provided for community floodplain management purposes.

G4. PERMIT NUMBER	G5. DATE PERMIT ISSUED	G6. DATE CERTIFICATE OF COMPLIANCE/OCCUPANCY ISSUED
-------------------	------------------------	---

G7. This permit has been issued for: ☐ New Construction ☐ Substantial Improvement

G8. Elevation of as-built lowest floor (including basement) of the building is: _____ ft. (m) Datum: _____

G9. BFE or (in Zone AO) depth of flooding at the building site is: _____ ft. (m) Datum: _____

LOCAL OFFICIAL'S NAME

TITLE

COMMUNITY NAME

TELEPHONE

SIGNATURE

DATE

COMMENTS

☐ Check here if attachments

INSTRUCTIONS FOR COMPLETING THE ELEVATION CERTIFICATE

The Elevation Certificate is to be completed by a land surveyor, engineer, or architect who is authorized by law to certify elevation information when elevation information is required for Zones A1-A30, AE, AH, A (with BFE), VE, V1-V30, V (with BFE), AR, AR/A, AR/AE, AR/A1-A30, AR/AH, or AR/AO. Community officials who are authorized by law or ordinance to provide floodplain management information may also complete this form. For Zones AO and A (without BFE), a community official, a property owner, or an owner's representative may provide information on this certificate, unless the elevations are intended for use in supporting a LOMA or LOMR-F. Certified elevations must be included if the purpose of completing the Elevation Certificate is to obtain a LOMA or LOMR-F.

In Puerto Rico only, elevations for building information and flood hazard information may be entered in meters.

SECTION A - PROPERTY OWNER INFORMATION

This section identifies the building, its location, and its owner. Enter the name(s) of the building owner(s), the building's complete street address, and the lot and block number. If the building's address is different from the owner's address, enter the address of the building being certified. If the address is a rural route or a Post Office box number, enter the lot and block numbers, the tax parcel number, the legal description, or an abbreviated location description based on distance and direction from a fixed point of reference. For the purposes of this certificate, "building" means both a building and a manufactured (mobile) home.

A map may be attached to this certificate to show the location of the building on the property. A tax map, FIRM, or detailed community map is appropriate. If no map is available, provide a sketch of the property location, and the location of the building on the property. Include appropriate landmarks such as nearby roads, intersections, and bodies of water. For building use, indicate whether the building is residential, non-residential, an addition to an existing residential or non-residential building, an accessory building (e.g., garage), or other type of structure. Use the Comments area of Section F if needed.

If latitude and longitude data are available, enter them in degrees, minutes, and seconds, or in decimal degrees, taken at the center of the front of the building. Enter arc seconds to two decimal places. Indicate the horizontal datum and the source of the measurement data (for example, taken with GPS, scaled from a USGS Quad Map, etc.).

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Complete the Elevation Certificate on the basis of the FIRM in effect at the time of the certification.

The information for Section B is obtained by reviewing the FIRM panel that includes the building's location. Information about the current FIRM and a pamphlet titled "Guide to Flood Maps" are available from the Federal Emergency Management Agency (FEMA) website at <http://www.fema.gov> or by calling 1-800-427-4661. If a Letter of Map Amendment (LOMA) or Letter of Map Revision (LOMR-F) has been issued by FEMA, please provide the letter date and case number in the Comments area of Section D or Section G, as appropriate.

Item B1. NFIP Community Name & Community Number. Enter the complete name of the community in which the building is located and the associated 6-digit community number. For a building that is in an area that has been annexed by one community but is shown on another community's FIRM, enter the community name and 6-digit number of the annexing community. For a newly incorporated community, use the name and 6-digit number of the new community. Under the NFIP, a "community" is any State or area or political subdivision thereof, or any Indian tribe or authorized native organization, that has authority to adopt and enforce floodplain management regulations for the areas within its jurisdiction. To determine the current community number, see the NFIP *Community Status Book*, available on FEMA's website at <http://www.fema.gov> or by calling 1-800-427-4661.

Item B2. County Name. Enter the name of the county or counties in which the community is located. For an unincorporated area of a county, enter "unincorporated area." For an independent city, enter "independent city."

Item B3. State. Enter the 2-letter state abbreviation (for example, VA, TX, CA).

Item B4. Map and Panel Number. Enter the 10-digit number shown on the FIRM panel where the building or manufactured (mobile) home is located. The first six digits will not match the NFIP community number: 1) when the sixth digit is a “C,” in which case the FIRM panel is in a countywide format; or 2) when one community has annexed land from another community but the FIRM panel has not been updated to reflect this annexation. If the sixth digit is a “C,” it is followed by a four-digit map number. For maps not in countywide format, enter the “community panel number” shown on the FIRM.

Item B5. Suffix. Enter the suffix letter shown on the FIRM panel that includes the building’s location.

Item B6. FIRM Index Date. Enter the effective date or map revised date shown on the FIRM Index.

Item B7. FIRM Panel Effective/Revised Date. Enter the map effective date or the map revised date shown on the FIRM panel. This will be the latest of all dates shown on the map. The current FIRM panel effective date can be determined by calling 1-800-427-4661.

Item B8. Flood Zone(s). Enter the flood zone, or flood zones, in which the building is located. All flood zones containing the letter “A” or “V” are considered Special Flood Hazard Areas. The flood zones are A, AE, A1-A30, V, VE, V1-V30, AH, AO, AR, AR/A, AR/AE, AR/A1-A30, AR/AH, and AR/AO. Each flood zone is defined in the legend of the FIRM panel on which it appears.

Item B9. Base Flood Elevation(s). Using the appropriate Flood Insurance Study (FIS) Profile, Flood Elevation Table, or FIRM panel, locate the property and enter the BFE (or base flood depth) of the building site. If the building is located in more than one flood zone in Item B8., list all appropriate BFEs in Item B9. BFEs are shown on a FIRM or FIS Profile for Zones A1-A30, AE, AH, V1-V30, VE, AR, AR/A, AR/AE, AR/A1-A30, AR/AH, and AR/AO; flood depth numbers are shown for Zone AO. Use the AR BFE if the building is located in any of Zones AR/A, AR/AE, AR/A1-A30, AR/AH, or AR/AO. In A or V zones where BFEs are not provided on the FIRM, the community may have established BFEs or obtained BFE data from other sources. For subdivisions and other developments of more than 50 lots or 5 acres, establishment of BFEs is required by the community’s floodplain management ordinance. If the BFE is obtained from another source, enter the BFE in Item B9.

Item B10. Indicate the source of the BFE that you entered in Item B9.

Item B11. Indicate the elevation datum to which the elevations on the applicable FIRM are referenced.

Item B12. Indicate whether the building is located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA). Federal flood insurance is prohibited in designated CBRS areas for buildings or manufactured (mobile) homes built or substantially improved after the date of the CBRS designation. An information sheet explaining CBRS areas may be obtained on FEMA’s website at <http://www.fema.gov> or by calling 1-800-427-4661.

SECTION C - BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

Complete Section C if the building is located in any of Zones A1-A30, AE, AH, A (with BFE), VE, V1-V30, V (with BFE), AR, AR/A, AR/AE, AR/A1-A30, AR/AH, or AR/AO, or if this certificate is being used to support a LOMA or LOMR-F. If the building is located in Zone AO or Zone A (without BFE), complete Section E instead. To ensure that all required elevations are obtained, it may be necessary to enter the building (for instance, if the building has a basement or sunken living room, split-level construction, or machinery and equipment).

Surveyors may not be able to gain access to some crawl spaces to shoot the elevation of the crawl space floor. If access to the crawl space cannot be gained, use the following guidance:

- Use a yardstick or tape measure to measure the floor height to the “next higher floor,” and then subtract the crawl space height from the elevation of the “next higher floor.”
- Contact the local floodplain administrator of the community that the building is located in. The community may have documentation of the elevation of the crawl space floor as part of the permit issued for the building.
- If the property owner has documentation or knows the height of the crawl space floor to the next higher floor, try to verify this by looking inside the crawl space through any openings or vents.

In all three cases, provide the elevation in the Comments area and a brief description of how the elevation was obtained.

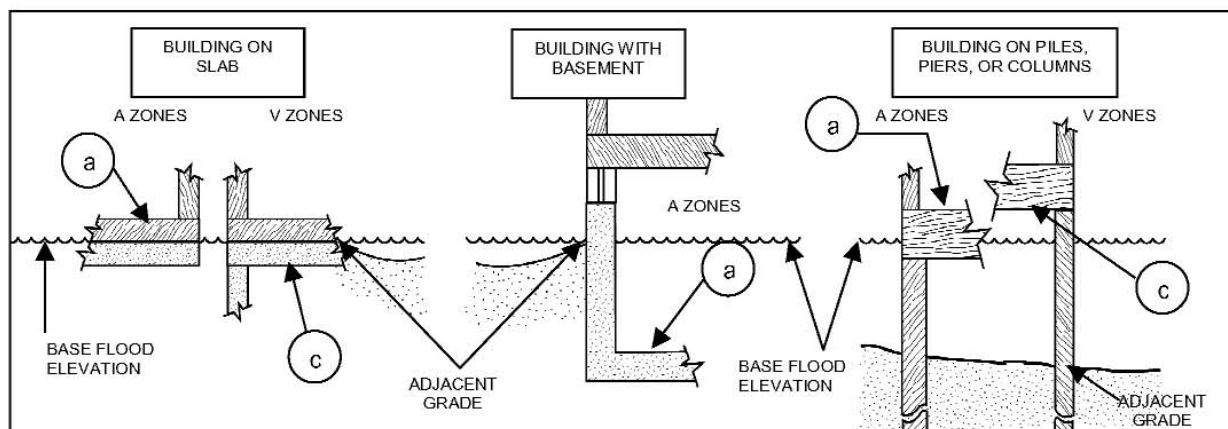
Item C1. Indicate whether the elevations to be entered in this section are based on construction drawings, a building under construction, or finished construction. For either of the first two choices, a post-construction Elevation Certificate will be

required when construction is complete. If the building is under construction, include only those elevations that can be surveyed in Items C3.a-g. Use the Comments area to provide elevations obtained from the construction plans or drawings. Select “finished construction” only when all machinery and/or equipment—furnaces, hot water heaters, heat pumps, air conditioners, and elevators and their associated equipment—have been installed and the grading around the building is completed.

Item C2. Select the diagram on pages 6 and 7 that best represents the building. Then enter the diagram number and use the diagram to identify and determine the appropriate elevations requested in Items C3.a-g. If you are unsure of the correct diagram, select the diagram that most closely resembles the building being certified, or provide a sketch or photograph of the building and enter all elevations in Items C3.a-g.

Item C3. Indicate whether the elevation reference mark (benchmark) used during the field survey is an elevation mark on the FIRM. If it is not, indicate the source and datum for the elevation. Vertical control benchmarks other than those shown on the FIRM are acceptable for elevation determinations. Show the conversion from the field survey datum used to the datum used for the BFE(s) entered in Item B9. All elevations for the certificate must be referenced to the datum on which the BFE is based. Show the datum conversion, if applicable, in this section or in the Comments area of Section D. For property experiencing ground subsidence, the most recently adjusted reference mark elevations must be used for determining building elevations. However, when subsidence is involved, the BFE should not be adjusted. Enter elevations in Items C3.a-g to the nearest tenth of a foot (nearest tenth of a meter, in Puerto Rico).

Items C3.a-d. Enter the building elevations (excluding the attached garage) indicated by the selected building diagram (Item C2.) in Items C3.a-c. If there is an attached garage, enter the elevation for top of attached garage slab in Item C3.d. (Because elevation for top of attached garage slab is self-explanatory, attached garages are not illustrated in the diagrams.) If the building is located in a V zone on the FIRM, complete Item C3.c. If the flood zone cannot be determined, enter elevations for all of Items C3.a-g. For buildings in A zones, elevations a, b, d, and e should be measured at the top of the floor. For buildings in V zones, elevation c must be measured at the bottom of the lowest horizontal structural member of the floor (see drawing below). For buildings elevated on a crawl space, Diagram 8, enter the elevation of the top of the crawl space floor in Item C3.a, whether or not the crawl space has openings (flood vents). *If any item does not apply to the building, enter “N/A” for not applicable.*



Item C3.e. Enter the lowest elevation of machinery and/or equipment—furnaces, hot water heaters, heat pumps, air conditioners, and elevators and their associated equipment—in an attached garage or enclosure or on an open utility platform that provides utility services for the building. If the machinery and/or equipment is mounted to a wall, pile, etc., enter the platform elevation of the machinery and/or equipment. Indicate machinery/equipment type in the Comments area of Section D or Section G, as appropriate. *If this item does not apply to the building, enter “N/A” for not applicable.*

Items C3.f-g. Adjacent grade is defined as the elevation of the ground, sidewalk, patio slab, or deck support immediately next to the building. If the certificate is to be used for a LOMA or LOMR-F, provide in the Comments area the lowest adjacent grade elevation measured at the deck support or stairs if that elevation is lower than the building's lowest adjacent grade. For

Zone AO, use the natural grade elevation, if available. This measurement must be to the nearest tenth of a foot (nearest tenth of a meter, in Puerto Rico) if this certificate is being used to support a request for a LOMA or LOMR-F.

Items C3.h-i. Enter the number of permanent openings (flood vents) in the walls supporting the building, including the attached garage, that are no higher than 1.0 foot above the adjacent grade. Determine the total area of all such openings in square inches (square cm, in Puerto Rico), and enter the total in Item C3.i. If the building has no permanent openings (flood vents) within 1.0 foot above adjacent grade, enter “0” (zero) for each of Items C3.h and C3.i. Enter in the Comments area whether the openings are on the foundation walls of the building and/or on the walls of the garage.

SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

Complete as indicated. This section of the Elevation Certificate may be signed by only a land surveyor, engineer, or architect who is authorized by law to certify elevation information. Place embossed seal and signature in the box next to elevations in Section C. A flat stamp is acceptable only in states that do not authorize use of an embossed seal over the signature of a professional. You are certifying that the information in Sections A, B, and C on this certificate represents your best efforts to interpret the data available and that you understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001. Use the Comments area of Section D, on the back of the certificate, to provide datum, elevation, or other relevant information not specified on the front.

SECTION E - BUILDING ELEVATION INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO & ZONE A (WITHOUT BFE)

Complete Section E if the building is located in Zone AO or Zone A (without BFE). Otherwise, complete Section C instead.

Item E1. Select the diagram on pages 6 and 7 that best represents the building; then enter the diagram number. If you are unsure of the correct diagram, select the diagram that most closely resembles the building, or provide a sketch or photograph. Explain in the Comments area if the measurement provided under Item E.2, E.3, or E.4 is based on the “natural grade.”

Item E2. Enter the height in feet and inches (meters and centimeters, in Puerto Rico) of the top of the bottom floor (as indicated in the applicable diagram) above or below the highest adjacent grade (HAG). For post-FIRM buildings in Zone AO, the community’s floodplain management ordinance requires that this value equal or exceed the base flood depth on the FIRM. Buildings in Zone A (without BFE) may qualify for a lower insurance rate if an engineered BFE is developed at the site.

Item E3. For Building Diagrams 6-8 with proper openings (see page 7), enter the height in feet and inches (meters and centimeters, in Puerto Rico) of the next higher floor or elevated floor (as indicated in the applicable diagram) above the highest adjacent grade (HAG). Be sure that you have completed Items C3.h and C3.i on the front of the form to show the number of permanent openings (flood vents) within 1 foot above adjacent grade and the total area of the openings.

Item E4. Enter the height in feet and inches, in relation to the highest adjacent grade next to the building, of the platform that supports the machinery and/or equipment servicing the building. Indicate machinery/equipment type in the Comments area of Section E. *If this item does not apply to the building, enter “N/A” for not applicable.*

Item E5. For those communities where this base flood depth is not available, the community will need to determine whether the top of the bottom floor is elevated in accordance with the community’s floodplain management ordinance.

SECTION F - PROPERTY OWNER (OR OWNER’S REPRESENTATIVE) CERTIFICATION

Complete as indicated. This section is provided for certification of measurements taken by a property owner or property owner’s representative when responding to Sections A, B, C (Items C3.h and C3.i only), and E. The address entered in this section must be the actual mailing address of the property owner or property owner’s representative who provided the information on the certificate.

SECTION G - COMMUNITY INFORMATION (OPTIONAL)

Complete as indicated. The community official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Sections A, B, C (or E), and G of this Elevation Certificate. If the authorized community official completes Sections C, E, or G, complete the appropriate item(s) and sign this section.

Check **Item G1**, if Section C is completed with elevation data from other documentation, including elevations obtained from the Community Rating System Elevation Software, that has been signed and embossed by a licensed surveyor, engineer, or architect who is authorized by law to certify elevation information. Indicate the source of the elevation data and the date obtained in the Comments area of Section G. If you are both a community official and a licensed land surveyor, engineer, or architect authorized by law to certify elevation information, and you performed the actual survey for a building in Zones A1-A30, AE, AH, A (with BFE), VE, V1-V30, V (with BFE), AR, AR/A, AR/A1-A30, AR/AE, AR/AH, or AR/AO, you must also complete Section D.

Check **Item G2**, if information is entered in Section E by the community for a building in Zone A (without a FEMA-issued or community-issued BFE) or Zone AO.

Check **Item G3**, if the information in Items G4-G9 has been completed for community floodplain management purposes to document the as-built lowest floor elevation of the building. Section C of the Elevation Certificate records the elevation of various building components but does not determine the lowest floor of the building or whether the building, as constructed, complies with the community's floodplain management ordinance. This must be done by the community. Items G4-G9 provide a way to document these determinations.

Item G4. Permit Number. Enter the permit number or other identifier to key the Elevation Certificate to the permit issued for the building.

Item G5. Date Permit Issued. Enter the date the permit was issued for the building.

Item G6. Date Certificate of Compliance Issued. Enter the date that the Certificate of Compliance or Occupancy or similar written official documentation of as-built lowest floor elevation was issued by the community as evidence that all work authorized by the floodplain development permit has been completed in accordance with the community's floodplain management laws or ordinances.

Item G7. New Construction or Substantial Improvement. Check the applicable box. "Substantial Improvement" means any reconstruction, rehabilitation, addition, or other improvement of a building, the cost of which equals or exceeds 50 percent of the market value of the building before the start of construction of the improvement. The term includes buildings that have incurred substantial damage, regardless of the actual repair work performed.

Item G8. As-built lowest floor elevation. Enter the elevation of the lowest floor (including basement) when the construction of the building is completed and a final inspection has been made to confirm that the building is built in accordance with the permit, the approved plans, and the community's floodplain management laws or ordinances. Indicate the elevation datum used.

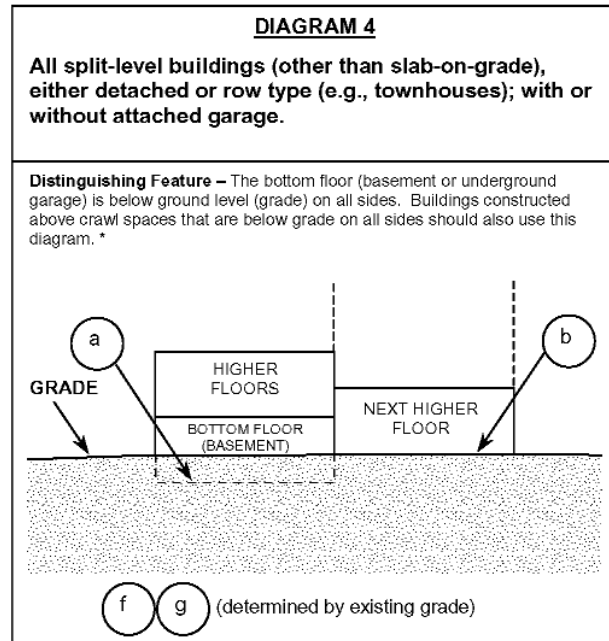
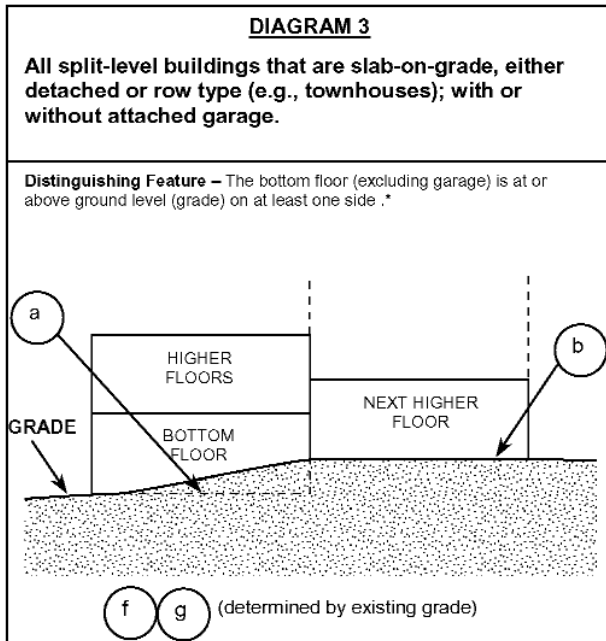
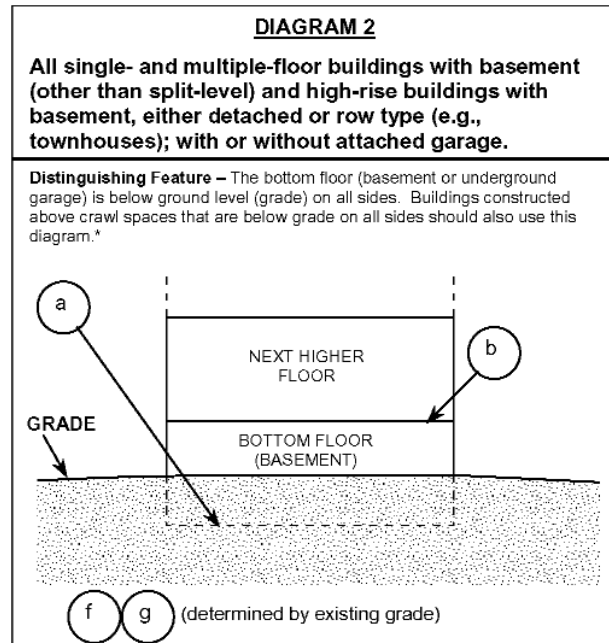
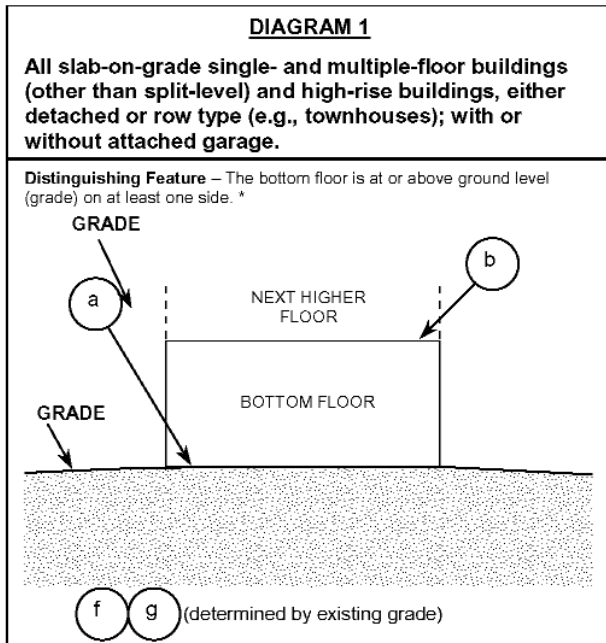
Item G9. BFE. Using the appropriate FIRM panel, FIS, or other data source, locate the property and enter the BFE (or base flood depth) of the building site. Indicate the elevation datum used.

Enter your name, title, and telephone number, and the name of the community. Sign and enter the date in the appropriate blanks.

BUILDING DIAGRAMS

The following eight diagrams illustrate various types of buildings. Compare the features of the building being certified with the features shown in the diagrams and select the diagram most applicable. Enter the diagram number in Item C2. and the elevations in Items C3.a-C3.g.

In A zones, the floor elevation is taken at the top finished surface of the floor indicated; in V zones, the floor elevation is taken at the bottom of the lowest horizontal structural member (see drawing in instructions for Section C).

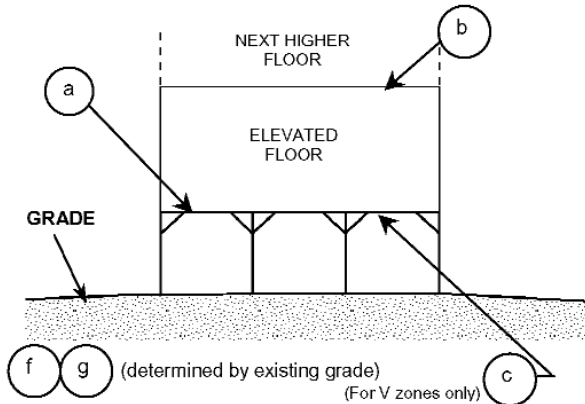


* A floor that is below ground level (grade) on all sides is considered a basement even if the floor is used for living purposes, or as an office, garage, workshop, etc.

DIAGRAM 5

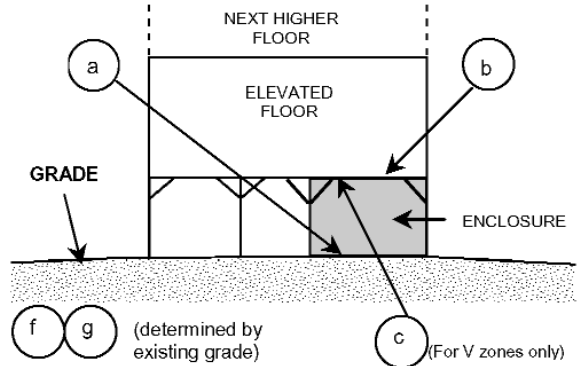
All buildings elevated on piers, posts, piles, columns, or parallel shear walls. No obstructions below the elevated floor.

Distinguishing Feature – For all zones, the area below the elevated floor is open, with no obstruction to flow of flood waters (open lattice work and/or readily removable insect screening is permissible).

**DIAGRAM 6**

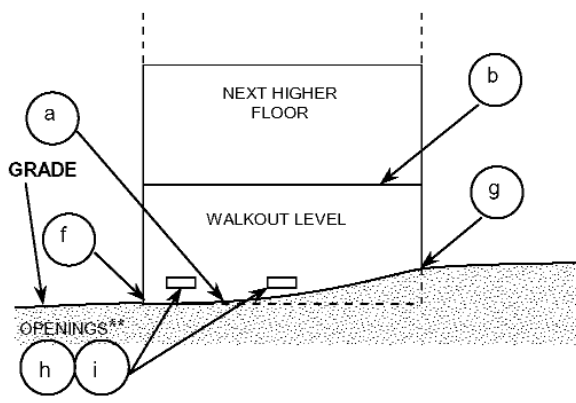
All buildings elevated on piers, posts, piles, columns, or parallel shear walls with full or partial enclosure below the elevated floor.

Distinguishing Feature – For all zones, the area below the elevated floor is enclosed, either partially or fully. In A Zones, the partially or fully enclosed area below the elevated floor is with or without openings** present in the walls of the enclosure. Indicate information about openings in Section C, Building Elevation Information (Survey Required).

**DIAGRAM 7**

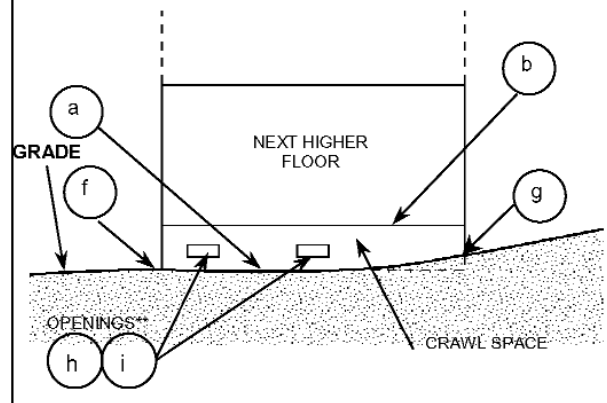
All buildings elevated on full-story foundation walls with a partially or fully enclosed area below the elevated floor. This includes walkout levels, where at least one side is at or above grade. The principal use of this building is located in the elevated floors of the building.

Distinguishing Feature – For all zones, the area below the elevated floor is enclosed, either partially or fully. In A Zones, the partially or fully enclosed area below the elevated floor is with or without openings** present in the walls of the enclosure. Indicate information about openings in Section C, Building Elevation Information (Survey Required).

**DIAGRAM 8**

All buildings elevated on a crawl space with the floor of the crawl space at or above grade on at least one side, with or without an attached garage.

Distinguishing Feature – For all zones, the area below the first floor is enclosed by solid or partial perimeter walls. In all A zones, the crawl space is with or without openings** present in the walls of the crawl space. Indicate information about the openings in Section C, Building Elevation Information (Survey Required).



** An "opening" (flood vent) is defined as a permanent opening in a wall that allows for the free passage of water automatically in both directions without human intervention. Under the NFIP, a minimum of two openings is required for enclosures or crawl spaces with a total net area of not less than one square inch for every square foot of area enclosed. Each opening must be on different sides of the enclosed area. If a building has more than one enclosed area, each area must have openings on exterior walls to allow floodwater to directly enter. The bottom of the openings must be no higher than one foot above the grade underneath the flood vents. Alternatively, you may submit a certification by a registered professional engineer or architect that the design will allow for the automatic equalization of hydrostatic flood forces on exterior walls. A window, a door, or a garage door is not considered an opening.

The work that provides the basis for this publication was supported by funding under a cooperative agreement with the Federal Emergency Management Agency. The author and publisher are solely responsible for the accuracy of the statements, and interpretations contained in the publication. Such interpretations do not necessarily reflect the views of the Federal Government.

Indiana Department of Natural Resources
Division of Water/Floodplain Management
402 West Washington Street, Room W264
Indianapolis, Indiana 46204
(317) 232-4160
(877) 928-3755 (toll free)
www.IN.gov/dnr/water



FEMA